REMARKS

This amendment is responsive to the non-Final Office Action of May 27, 2009. Reconsideration and allowance of claims 1-10 and 12-18 are requested.

The Office Action

Claims 1-10 and 12-17 stand provisionally rejected on the grounds of obviousness-type double patenting.

Claims 1, 12, and 14 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Myrick et al. (USPN 6,198,531).

Claims 2-10, 13, and 15-17 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Myrick et al. (USPN 6,198,531).

The Present Application

The present application is directed to an optical analysis system which subjects an optical signal to wavelength selective weighting and wavelength selective spatial separation specified by a weighting function.

The References of Record

Myrick et al. (Myrick) discloses an optical data compression system which optically compresses and weights data which is carried by light into at least one orthogonal component. The orthogonal component is measured by a detector in series with an optical filter mechanism.

The Claims Distinguish Patentably
Over the References of Record

Finality of the Next Action Is Precluded

Applicant notes the Office Action does not reject each and every element of dependent claims 2-10, 13, and 15-17. Indeed, although the Summary of the Office Action indicates that claims 2-10, 13, and 15-17 stand rejected, the Detailed Action omits any explanation of how any cited art renders obvious each and every element theses claims. Applicant respectfully submits that this omission amounts to a failure to articulate a prima facie case of unpatentablity and the burden to rebut this "rejection" has not yet shifted to the Applicant. Consequently, a next

Office Action rejecting claims 2-10, 13, and 15-17 cannot properly be made final since only then would the Applicant be obligated to rebut the rejection, presuming that such an Office action sets forth a prima facie case. (See MPEP § 706.07(a)).

Claims 1, 12, and 14 Distinguish Patentably Over Myrick et al.

Claim 1 calls for a first multivariate optical element (MOE) for wavelength selective separation of an optical signal into a first part and a second part and a second MOE for wavelength selective weighting of the optical signal based on a weighting function. The weighted first and second parts of the optical signal are detected by a first detector and second detector, respectively. Myrick, as cited by the Examiner, discloses an optical analysis system in which optical filters (52) are grouped into pairs. Each pair of optical filters corresponds to a principal component, i.e. the positive and negative portions of a first principal component (column 13, lines 52-59). Each optical filter (52) optically performs two spectroscopic analysis steps simultaneously: compressing data into principal components and weighting the principal components (column 7, lines 45-55). That is, each optical element outputs a single principal component at a single weight. This teaches away from Claim 1, because Claim 1 calls for a first MOE for wavelength selective separation of the optical signal into two parts: a first part and a second part. For example, the embodiment of FIGURE 9, as cited by the Examiner, includes a number of optical filter $52a_1$, $52b_1$, $52a_2$, $52b_2$,... Each pair of optical filters $52a_n$, $52b_n$ correspond to one principal component n and each filter of that pair corresponds to the positive portion or the negative portion of the principal component n. Therefore, the filter (52), as disclosed by Myrick, is only capable of separating the incident light (49) into one part. Furthermore, Myrick does not teach of a second MOE for wavelength selective weighting; in contrast, Myrick discloses that each filter performs the weighting along with separating the incident light into a single component.

Claim 12 calls for a method including separating an optical signal into a first part and a second part by means of a wavelength selective multivariate optical element (MOE), and weighting the optical signal on the basis of a weighting function by means of a second MOE. The weighted first and second parts of the optical signal are detected. Myrick, as cited by the Examiner, discloses an optical analysis system in which optical filters (52) which are grouped into pairs, each pair corresponding to one principal component, i.e. the positive and negative portions of the same principal

component (column 13, lines 52-59). Each optical filter (52) optically performs two spectroscopic analyses simultaneously: compresses data into principal components and weights the principal components (column 7, lines 45-55). That is, each optical element outputs a single principal component at a single weight. This teaches away from Claim 1, because Claim 1 calls for a first MOE for wavelength selective separation of the optical signal into two parts; a first part and a second part. For example, the embodiment of FIGURE 9, as cited by the Examiner, includes a number of optical filter $52a_1$, $52b_1$, $52a_2$, $52b_2$,... Each pair of optical filters $52a_n$, $52b_n$ correspond to one principal component n and each filter of that pair corresponds to the positive and negative portion of the principal component n. Therefore, the filter (52), as disclosed by Myrick, only separates the incident light (49) into one part. Furthermore, Myrick does not teach of a second MOE for wavelength selective weighting; in contrast, Myrick discloses that each filter performs the weighting along with separating the incident light into a single component.

Claim 14 calls for a blood analysis system including a first multivariate optical element (MOE) for wavelength selective separation of an optical signal into a first part and a second part and a second MOE for wavelength selective weighting of the optical signal based on a weighting function. The weighted first and second parts of the optical signal are detected by a first detector and second detector, respectively. Myrick, as cited by the Examiner, discloses an optical analysis system in which optical filters (52) which are grouped into pairs, each pair corresponding to one principal component, i.e. the positive and negative portions of the same principal component (column 13, lines 52-59). Each optical filter (52) optically performs two spectroscopic analyses simultaneously: compresses data into principal components and weights the principal components (column 7, lines 45-55). That is, each optical element outputs a single principal component at a single weight. This teaches away from Claim 1, because Claim 1 calls for a first MOE for wavelength selective separation of the optical signal into two parts: a first part and a second part. For example, the embodiment of FIGURE 9, as cited by the Examiner, includes a number of optical filter $52a_1$, $52b_1$, $52a_2$, $52b_2$,... Each pair of optical filters $52a_n$, $52b_n$ correspond to one principal component n and each filter of that pair corresponds to the positive and negative portion of the principal component n. Therefore, the filter (52), as disclosed by Myrick, is only capable of separating the incident light (49) into one part. Furthermore, Myrick does not teach of a second MOE for wavelength selective

weighting; in contrast, Myrick discloses that each filter performs the weighting along with separating the incident light into a single component.

Claims 2-10, 13, and 15-17 Are Not Obvious In View of Myrick et al.

The Examiner has stated that it would have been obvious to incorporate the features of Claims 2-10, 13, and 15-17 because it would have taken only ordinary engineer expedience to do so to obtain the desired result. The Applicants respectfully disagree. The Examiner is required to provide "some articulated reasoning with some rationale underpinning to support the legal conclusion of obviousness"; must "identify a reason that would have prompted a person of ordinary skill in the relevant field to combine the elements in the way the claimed new invention does"; and must make "explicit" this rationale of "the apparent reason to combine the known elements in the fashion claimed," including a detailed explanation of "the effects of demands known to the design community or present in the marketplace" and "the background knowledge possessed by a person having ordinary skill in the art." KSR Int'l Co. v. Teleflex Inc., 127 S.Ct. 1727, 1734, 82 USPQ2d 1385, 1391 (2007). Anything less than such an explicit analysis may not be sufficient to support a prima facie case of obviousness.

Furthermore, the Office always bears the initial burden to develop reasons supporting a reliance on inherency, in this case engineering expedience (MPEP 2112 (IV)). To satisfy this burden, the Office must identify some basis in fact or articulate some reasoning at least tending to show that allegedly inherent subject matter necessarily (i.e., inevitability) flows from cited art. Indeed, the MPEP expressly instructs that:

> "In relying upon the theory of inherency, the examiner must provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic necessarily flows from the teachings of the applied prior art." Further, since a basis in fact and technical reasoning is required when inherency is invoked, a failure to provide such evidence or rationale is fatal to the reliance on this doctrine. This is only logical since evidence "must make clear" that the allegedly inherent subject matter is necessarily

present in (i.e., necessarily flows from) the disclosure of cited art. (MPEP 2112).
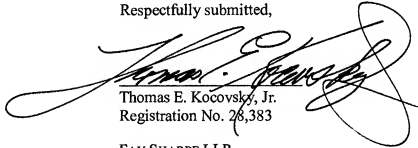
MPEP 2112 (IV)

Pursuant to MPEP 2112, the applicant hereby traverses the Examiner's assertion that the limitations of claims 2-10, 13, and 15-10 are well known practices in the art and puts the Examiner to his proofs to cite a reference which substantiates his assertions that "it would have taken only ordinary engineering expedience to do so to obtain a desired result" are correct in the context of the present claims.

CONCLUSION

For the reasons set forth above, it is submitted that claims 1-10 and 12-18 distinguish patentably over the references of record and meet all statutory requirements. An early allowance of all claims is requested.

In the event the Examiner considers personal contact advantageous to the disposition of this case, the Examiner is requested to telephone Thomas Kocovsky at 216.363.9000.

Respectfully submitted,

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